



JOHNS MANVILLE
IP Department
10100 W Ute Avenue
Littleton, Colorado 80127
(303) 978-2000

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Case Docket No. 1999/010
Signature
Date: September 21, 2005

THE COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

Re: Application of: Plotz
Serial No.: 10/619,609
Filed: July 16, 2003
For: WALL AND FLOOR COVERINGS

Art Unit: 1771
Examiner: VELAZQUEZ

Sir:

Transmitted herewith is/are the following document(s) related to the above-identified application:

- ☐ Notice of Appeal
- ☐ Associate Power of Attorney
- ☒ Appeal Brief
- ☐ Request for Oral Hearing

Please extend the time for filing the _____ () months to _____.

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Robert D. Touslee
Attorney

Robert D. Touslee
Registration No. 34,032
(303) 978-3927
Customer No. 29602

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AF/1771
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Kurt Plotz

Group Art Unit: 1771

Application No.: 10/619,609

Examiner: NORCA LIZ TORRES VELAZQUEZ

Filed: July 16, 2003

Appeal No.: Unassigned

For: WALL AND FLOOR COVERINGS

APPEAL BRIEF

Mail Stop APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This appeal is from the decision of the Primary Examiner dated February 23, 2005, finally rejecting claims 1, 3-11, 13-16 and 32-34, which are reproduced as the Claims Appendix of this brief.

I. Real Party in Interest

The present application is assigned to JOHNS MANVILLE INTERNATIONAL, who is the real party in interest, and is the assignee of Application No. 10/619,609.

II. Related Appeals and Interferences

The following applications on appeal may be affected by or have bearing on the decision in the present application:

- (a) Application No. 09/619,531, filed July 19, 2000; and
- (b) Application No. 09/619,535, filed July 19, 2000.

III. Status of Claims

Claims 1, 3-11, 13-16 and 32-34 stand finally rejected. Claims 2, 12 and 17-31 have been canceled.

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IV. Status of Amendments

The Reply Pursuant to 37 C.F.R. §1.116 filed May 23, 2005, has been entered and considered according to the Advisory Action mailed June 6, 2005.

V. Summary Claimed Subject Matter

Claim 1, the broadest claim on appeal, is directed to wall and floor coverings based on a carrier coated with one or more layers. The carrier consists essentially of a glass fiber-containing mat which has been pre-consolidated with a binder, and a non-woven mat of thermally fixed organic synthetic fibers. The glass fiber mat and the non-woven synthetic fiber mat are bound together by needling in such a manner that part of the synthetic fibers penetrate through the glass fiber mat and lie adjacent to the side of the glass fiber mat opposite that of the synthetic fiber mat. These features are set forth in the specification on page 3, lines 7-16; page 4, lines 5-16; page 6 in its entirety; page 7, line 23 to page 8, line 5; and the Example on page 11.

Claims 3 and 4 specify that the synthetic fibers are of polypropylene or polyester, respectively. Claims 5 and 6 specify that the synthetic fiber mat is a staple fiber mat or a filamentous non-woven mat, respectively. Claim 7 specifies that the glass fiber mat is pre-consolidated with a water insoluble binder while claim 8 lists specific water insoluble binders. Claim 9 specifies that the synthetic non-woven mat is pre-consolidated, claim 10 specifies that the pre-consolidation of the synthetic fiber mat is performed hydrodynamically or mechanically while claim 11 specifies that the synthetic non-woven is thermally pre-consolidated. Claim 13 lists the types of glass fibers used in the glass fiber mat, claim 14 lists the binders used in a final consolidation of the carrier, claim 15 specifies that the needling in claim 1 is performed hydrodynamically or mechanically, while claim 16 specifies that the carrier does not include a binder for final consolidation.

Claim 32 specifies that the one or more layers coated on the glass fiber mat are selected from polyvinyl chloride, polyolefins, polyacrylates or natural resins, and claim 33 specifies that the duroplastic binders mentioned in claim 14 include urea or melamine resins. Claim 34 is an independent claim similar to claim 1 and is directed to wall or floor coverings comprising a carrier coated with one or more layers wherein the pre-consolidated glass fiber-containing mat and the organic synthetic fiber non-woven mat are bonded together by hydrodynamic needling.

An important feature of the claimed invention is the needling technique in which needling is initiated from the side of the synthetic non-woven away from the glass fiber mat, causing a portion of the synthetic organic fibers to penetrate entirely through the body of the glass fiber mat, through the surface thereof, and to lie adjacent that surface which is away

from the synthetic fiber mat. By this needling technique, the glass fiber mat and the synthetic fiber non-woven mat are tightly bonded without the necessity of adhesives. In addition, the fibers adjacent the surface of the glass fiber layer not only act to lock the fibrous layers together but also act as anchors for the layer(s) to be subsequently applied. Note page 8, line 26 to page 9, line 4, of the specification. This feature contributes to the properties of the final products, i.e., wall and floor coverings providing improved noise attenuation and improved thermal and dimensional stability.

VI. Grounds of Rejection to be Reviewed on Appeal

Claims 1, 4, 5, 9, 10 and 15 stand finally rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 5,017,426 to Greiser et al in view of U.S. Patent No. 6,092,622 to Hiers et al.

Claims 1, 3-5, 9-11, 15, 16 and 32 stand finally rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 5,616,395 to Baravian et al in view of U.S. Patent No. 6,092,622 to Hiers et al and "further evidenced by" U.S. Patent No. 5,171,629 to Heidel et al.

Claim 13 stands finally rejected under 35 U.S.C. §103(a) as unpatentable over Baravian et al '395 in view of Hiers et al '622 and further in view of U.S. Patent No. 4,522,876 to Hiers.

Claims 6-8, 14 and 33 stand finally rejected under 35 U.S.C. §103(a) as unpatentable over Baravian et al '395 in view of Hiers et al '622 and further in view of Heidel et al '629.

Claim 34 stands finally rejected under 35 U.S.C. §103(a) as unpatentable over Baravian et al '395 in view of Hiers et al '622 and further in view of U.S. Patent No. 4,569,088 to Frankenburg et al.

Claims 1, 4, 5, 9, 10 and 15 stand finally rejected on the ground of obviousness double patenting over claims 1-6 of U.S. Patent No. 5,017,426 (Greiser et al) in view of U.S. Patent No. 4,522,876 (Hiers).

Claims 1, 3-11, 13, 15 and 16 were finally rejected on the ground of obviousness double patenting over claims 1, 2, 4-6, 9, 10 and 17 of copending Application No. 09/619,535. In response to this rejection, a Terminal Disclaimer was filed May 23, 2005. In a telephonic conference on June 15, 2005, the Examiner indicated that the Terminal Disclaimer was acceptable and that this rejection had been overcome.

VII. Argument

Greiser et al '426 discloses a two-layered laminate composed of a pre-consolidated web of glass fibers needled to a pre-consolidated non-woven web of synthetic organic fibers.

The needles initially penetrate the synthetic fiber layer and then penetrate the glass fiber layer. Neither the specification nor drawing of the reference discloses needling in such a manner that a part of the synthetic fibers penetrate the outer surface of the glass fiber layer and lie adjacent thereto. The '426 reference also does not disclose using pre-shrunk synthetic fibers.

In the Final Rejection, the Examiner contends that Greiser et al '426 discloses that the synthetic fibers are "pulled through" the glass fiber web (column 2, line 20) and that "it would be obvious to have organic fibers lying adjacent to the side of the fiberglass-containing mat" (page 3, paragraph 3). Hiers et al '622 is relied upon for its disclosure of adhesive coatings to secure tufts of fibers from a non-woven layer to the surface. It is the Examiner's conclusion that it would have been obvious to secure the fibers which allegedly penetrate the surface of the laminates of Greiser et al '426 using the adhesive coatings of Hiers et al '622.

In order to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The motivation to modify the relied on prior art must flow from some teaching in the art that suggests the desirability or incentive to make the modification needed to arrive at the claimed invention. In re Napier, 55 F.2d 610, 613; U.S.P.Q.2d 1782, 1784 (Fed. Cir. 1995). Obviousness cannot be established by modifying the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the modification. In re Geiger, 815 F.2d 686, 688; U.S.P.Q.2d 1276, 1278 (Fed. Cir. 1987).

Greiser et al '426 does not disclose needling such that a part of the synthetic fibers penetrate the surface of the glass fiber layer and lie adjacent thereto. The advantage of this feature has been previously discussed. The statement in the reference that the synthetic fibers are "pulled through" the glass fiber layer does not mean that a portion of the organic synthetic fibers actually penetrate the surface of the glass fiber mat. One would normally seek to avoid penetrating the surface to avoid damaging the surface and to avoid the formation of glass fragments and dust. The Figure in the reference does not show any penetration of the outer surface of the glass fiber mat by organic fibers.

The statement in the office Action that it would be obvious to have organic fibers lying adjacent to the side of the glass fiber mat is merely conclusionary and unsupported by any disclosure in the cited art. Clearly, the disclosures of the references applied by the Examiner

do not provide a motivation to modify the laminates of Greiser et al '426 in the manner set forth in the appealed claims.

Moreover, Applicant believes it would not have been obvious to those of ordinary skill to combine Greiser et al '426 with Hiers et al '622. The laminates disclosed in Greiser et al '426 consist of a two-layer carrier designed to be coated or impregnated with bitumen, elastomers or plastomers and used as roofing or sealing membranes. The articles disclosed in Hiers et al '622 are completely different. They are thermal and acoustical insulating laminates designed primarily for automotive uses and composed of three fibrous layers needled to form tufts on both surfaces which are then coated with adhesive to fix the fibers in position and to enable the shield to be attached to an automobile. Those of ordinary skill seeking to improve the properties of roofing or sealing membranes would not be motivated to look to documents in the area of automobile thermal and acoustical shields. Nor would there appear to be any motivation to apply an adhesive outer layer to the fibrous carriers disclosed in Greiser et al '426 which are to be coated with bitumen, elastomers or plastomers. Thus, there would have been no reasonable expectation that modifying the laminates of Greiser et al '426 in the manner suggested in the Final Rejection would have successfully improved the properties of the two-layered carrier laminates.

With respect to the recited feature in claims 1 and 34 of using thermally fixed organic synthetic fibers, the attachment in the Advisory Action mailed June 6, 2005, refers to column 3, lines 8-10, of Hiers et al '622. This disclosure (lines 15-20) actually teaches away from using heat-shrinkable fibers and would discourage, not motivate, those of ordinary skill to use heat-shrinkable organic fibers in the laminates of Greiser et al '426.

For at least these reasons, the §103(a) rejection based on Greiser et al '426 in view of Hiers et al '622 is unsound and should be reversed.

Turning to the rejection based on Baravian et al '395 in view of Hiers et al '622 "as evidenced by" Heidel et al '629, Baravian et al '395 discloses two-layered laminates composed of a pre-consolidated, thermostabilized, non-woven layer of organic fibers bonded to a glass fiber layer by the use of a polymeric adhesive. When the glass fiber layer is in the form of a grid or cloth, needling or seam knitting is also used. The two working examples only employ adhesive bonding which basically adheres only the surfaces of the two layers.

According to this reference, "consolidation and thermostabilization take place only in the first layer and before assembly with the second layer" (column 6, lines 46-47). Thus, Baravian et al '395 expressly teaches away from pre-consolidating the mineral fiber layer. Further, no needling conditions are described and the reference does not disclose needling such that some of the organic fibers penetrate entirely through the glass fiber web and lie adjacent to a surface thereof. Moreover, the present claims, by virtue of the words "consisting essentially of" exclude the use of adhesives which merely bond the surfaces of

the layers and are not homogeneously distributed throughout the laminate as opposed to the needling technique employed in the present invention.

It is the Examiner's position that it would have been obvious to modify the laminates of Baravian et al '395 to add tufts and adhesive layers in accordance with the teachings of Hiers et al '622. However, in the absence of any disclosure in Baravian et al '395 of any needling conditions, it is submitted that those of ordinary skill would not have been motivated to needle the two layers of Baravian et al '395 in opposite directions, to further provide tufts on both surfaces and then apply outer adhesive layers when the laminates are intended to be coated with bitumen for use as sealing sheets on roofs.

Furthermore, the laminates of Hiers et al '622 are composed of three fibrous layers with the mineral fiber layer sandwiched between organic fiber layers and needling being conducted from both sides. In contrast, in the laminates of Baravian et al '395, the mineral fiber layer must be an outer layer to provide the requisite flame retardance.

The rejection relies on Heidel et al '629 for a suggestion to employ pre-consolidation of the mineral fiber web of Baravian et al '395. Baravian et al '395 expressly states that consolidation and thermostabilization take place only in the synthetic fiber layer thereby teaching away from consolidating the mineral fiber layer. Those of ordinary skill would not have been motivated to consolidate the mineral fiber layer since to do so would undoubtedly have an adverse impact on the properties desired by Patentees. Any chemical bonding of the mineral fibers which would have resulted in consolidation of the layer would be avoided.

For at least these reasons, the §103(a) rejection based on Baravian et al '395 in view of Hiers et al '622 and Heidel et al '629 is unsound and should be reversed.

With respect to the rejection of claim 13, Hiers '876 has been relied upon for its disclosure of various classes of glass fibers for use in glass fiber webs. Even if one skilled in the art would have been motivated to combine the disclosure of Hiers '876 with that of Baravian et al '395 and Hiers et al '622, the resultant laminate would not suggest the present claimed wall and floor coverings. Further, there would have been no motivation to combine the disclosures of Baravian et al '395 and Hiers et al '622 for the reasons fully set forth above.

Accordingly, the §103(a) rejection of claim 13 over Baravian et al '395 in view of Hiers et al '622 and further in view of Hiers '876 is unsound and should be reversed.

With respect to the rejection of claims 6-8, 14 and 33, the basic combination of Baravian et al '395 and Hiers et al '622 fails to disclose or suggest the wall and floor coverings specified in claim 1 for reasons previously elaborated. Baravian et al '395 teaches away from consolidation of the mineral fiber layer and consolidation of the final two-layered

laminate. There would have been no motivation to modify the laminates of Baravian et al '395 in accordance with the disclosure of Heirs et al '622 for reasons provided above.

Heidel et al '629 is relied upon in the rejection because the reference discloses pre-consolidation of glass fiber webs and final consolidation of the laminate by resinous binders. Applicants submit that those of ordinary skill in the art would not have been motivated to pre-consolidate the mineral fiber layer and to consolidate the final laminate of Baravian et al '395 because to do so would be contrary to the express teachings of the reference and would render the laminates of Baravian et al '395 incapable of possessing the properties desired. If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no motivation to make the proposed modifications. M.P.E.P. §2143.01 (p. 2100-131, Rev. 2, May 2004).

For at least these reasons, the §103(a) rejection over Baravian et al '395, Hiers et al '622 and Heidel et al '629 should be reversed.

Turning to the rejection of claim 34, Appellant notes Frankenburg et al '088 is directed solely to the manufacture of garments. Neither Baravian et al '395 nor Hiers et al '622 is directed to garment manufacture. There would have been no motivation to look in the direction of garment manufacture as in Frankenburg et al '088 for modification of laminates composed of glass fiber layers and synthetic fiber layers for use in bitumen-impregnated roofing membranes or thermal/acoustical automotive shields. Accordingly, the §103(a) rejection of claim 34 is unsound and should be reversed.

The provisional rejection of claims 1, 3-11, 13, 15 and 16 on the ground of obviousness double patenting over claims 1, 2, 4-6, 9, 10 and 17 of copending application, Serial No. 09/619,535 has been obviated by filing a Terminal Disclaimer.

Concerning the rejection of claims 1, 4, 5, 9, 10 and 15 on the ground of obviousness double patenting, the claims of Greiser et al. '426 are directed to a laminate composed of a pre-consolidated non-woven web of synthetic fibers and a pre-consolidated web of mineral fibers, both webs bonded by needling. The claims do not recite additional layers and do not specify that needling is performed such that a part of the synthetic fibers penetrate through the glass fiber layer and lie adjacent to a surface thereof.

Hiers '876 does not disclose needling wherein a part of the organic fibers penetrate the mineral fiber layer and lie adjacent to a surface thereof. While the reference mentions coatings (column 11, lines 55-66), this is in connection with the production of fabrics suitable for the preparation of filters. Those of ordinary skill concerned with improving the properties of the carriers claimed in Greiser et al '426 would not be motivated to apply the fabric coatings of Hiers '876. Even if the claimed laminates of Greiser et al '426 were so modified,

the resultant composite would not have the structure of the presently claimed wall and floor coverings.

For at least these reason, the obviousness double patenting rejection based on claims 1-6 of Greiser et al '426 in view of Hiers '876 should be reversed.


In view of the arguments set forth above, Appellant submits that the final rejection of claims 1, 3-11, 13-16 and 32-34 is unsound and reversal thereof is respectfully requested.

VIII. Claims Appendix

See attached Claims Appendix for a copy of the claims involved in the appeal.

Respectfully submitted,

Date September 21, 2005


Attorney for Applicant

Robert D. Touslee
303.978.3927
Registration No. 34,032

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620



VIII. CLAIMS APPENDIX

The Appealed Claims

1. Wall and floor coverings based on a carrier coated with one or more layers, said carrier consisting essentially of:

a fiberglass containing mat pre-consolidated with a binder, and

a non-woven mat made of thermally fixed organic synthetic fibers bound with said fiberglass mat by needling, wherein part of said organic fibers penetrate through said fiberglass mat and lie adjacent to a side of said fiberglass containing mat that is opposite to said organic non-woven mat; and

one or more layers coated on a glass fiber side of said carrier, opposite the non-woven synthetic mat.
2. (Canceled)
3. Wall and floor coverings according to claim 1, wherein said organic synthetic fibers are polypropylene fibers.
4. Wall and floor covering according to Claim 1, wherein said organic synthetic fibers are polyester fibers.
5. Wall and floor coverings according to Claim 1, wherein said organic synthetic fibers mat is a fiber staple mat.
6. Wall and floor coverings according to at least Claim 1, wherein said organic synthetic fibers mat is a filamentous non-woven.
7. Wall and floor coverings according to Claim 1, wherein said fiberglass containing mat is pre-consolidated with a water insoluble binder.

8. Wall and floor coverings according to Claim 7, wherein said water insoluble binder is an acrylate copolymer copolymerized with vinyl acetate or styrene, a melamine resin binder or a urea resin binder.

9. Wall and floor coverings according Claim 1, wherein said organic synthetic fibers non-woven mat is pre-consolidated.

10. Wall and floor coverings according to Claim 9, wherein said organic synthetic fibers non-woven mat is hydrodynamically or mechanically pre-consolidated .

11. Wall and floor coverings according to Claim 9, wherein said organic synthetic fibers non-woven mat is thermally pre-consolidated.

12. (Canceled).

13. Wall and floor coverings according to Claim 1, wherein said fiberglass mat includes glass fibers of E, C class, mixture thereof and ECR glass.

14. Wall and floor coverings according to Claim 1, wherein said carrier is consolidated with pure acrylates, copolymers of styrene, butadiene, acrylates and mixtures of duroplastic binders as a final step.

15. Wall and floor coverings according to Claim 1, wherein said fiberglass mat and said organic synthetic fibers non-woven mat are hydrodynamically or mechanically bonded with each other.

16. Wall and floor coverings according to Claim 1, wherein said carrier does not include a binder for final consolidation.

Claims 17-31 (Canceled)

32. Wall and floor coverings according to claim 1, wherein the one or more layers coated on a glass fiber side of the carrier is (are) selected from polyvinyl chloride, polyolefins, polyacrylates or natural resins.

33. Wall and floor coverings according to claim 14, wherein the duroplastic binders comprise urea or melamine resins.

34. Wall and floor coverings comprising a carrier coated with one or more layers, said carrier consisting essentially of:

a glass fiber-containing mat pre-consolidated with a binder; and

a non-woven mat comprised of thermally fixed organic synthetic fibers bonded to said fiberglass mat by hydrodynamic needling, wherein part of said organic fibers penetrate through said glass fiber mat and lie adjacent to a side of said glass fiber-containing mat that is opposite to said organic fiber non-woven; and

at least one layer bonded to a glass fiber side of said carrier, opposite the non-woven synthetic mat.